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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,698	02/27/2002	Milind M. Kulkarni	CISCP271/5126	6296

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EXAMINER

SALAD, ABDULLAHI ELMI

ART UNIT PAPER NUMBER

2157

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/084,698

**Applicant(s)**

KULKARNI ET AL.

**Examiner**

Salad E. Abdullahi

**Art Unit**

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 and 43-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 and 43-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

**Response to Amendment**

1. The amendment filed on 1/17/2006 has been received and made of record.
2. Applicant's argument filed 1/17/2006 with respect to claims 1-28 and 44-46 have been fully considered but are moot in view of new ground of rejection.
3. The office action dated on 11/18/2005 examiner have indicated claims 1-28 and 44-46 were allowable. However, upon further consideration of the claims, a new ground(s) of rejection is made. Examiner apologizes for any burden bears to the applicant.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 1-27 and 44-46 are rejected under 35 U.S.C. 102(e) as being unpatentable over Warriar et al., U.S. Patent No. 6,707,809[hereinafter Warriar] in view of Johansson et al., U.S. Patent Application Publication No. 2002/0080752[hereinafter Johansson].

As per claim 1, Warriar discloses in a first one of a plurality of Home Agents supporting Mobile IP, a method of processing a registration request from a Mobile Node that has roamed to a Foreign Agent supporting Mobile IP, comprising:

receiving a registration request associated with the plurality of Home Agents((see fig. 3, steps 52, 54, and col. 6, line 23-42);

sending the registration request to a second one of the plurality of Home Agents such that the second one of the plurality of Home Agents creates a binding between the Mobile Node and the Foreign Agent (see fig. 3 and step 56 and 60 col. 6, line 23-54);

creating a temporary binding between the Mobile Node and the Foreign Agent (see fig. 3 and step 56 and 60 col. 6, line 23-54);

receiving a registration reply from the second one of the plurality of Home Agents (see fig. 3 and step 62 and col. 6, line 23-54);

updating the temporary binding to create a permanent binding when the registration reply is received from the second one of the plurality of Home Agents (see fig. 3 and step 64 and col. 6, line 23-54); and

sending the registration reply to the Foreign Agent identified in the temporary binding (see fig. 3 and step 68 and col. 6, line 23-54).

Marge is silent regarding:

receiving the registration request addressed to a virtual Home Agent address. Johansson, discloses a route optimization technique for a mobile IP communications system including receiving a registration request addressed to a virtual Home Agent address (see fig. 13a and paragraph 0142). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the teachings of Johansson such as receiving the registration request addressed to a virtual Home Agent address in order to provide redundant mechanism for the home agents in the case of failure.

As per claim 2, Warrier discloses the method as recited in claim 1, wherein the temporary binding comprises an identifier associated with the Mobile Node, an IP address associated with the Foreign Agent, and an IP address associated with the second one of the plurality of Home Agents (see col. 6, lines 43-54).

As per claim 3-9, Warrier discloses the method as recited in claim 1, wherein the permanent binding comprises an identifier associated with the Mobile Node, an IP address associated with the Foreign Agent, an IP address associated with the second one of the plurality of Home Agents, and a registration (see col. 6, lines 43-54).

As per claims 10-11, Johansson discloses the method as recited in claim 1, wherein the registration request specifies a destination MAC address equal to a MAC address assigned to the second one of the plurality of Home Agents (see paragraph 0086)

As per claims 12-14, Johansson discloses the method as recited in claim 1, wherein the registration request specifies a destination IP address as the virtual Home Agent address (see fig. 13a and paragraph 0142).

As per claims 15-16, Johansson discloses the method as recited in claim 1, further comprising: advertising a virtual network associated with the virtual Home Agent address, wherein advertising comprises sending a routing table update (see paragraph 0018)

As per claims 17, and 21-25 Johansson discloses the method as recited in claim 1, further comprising: sending at least one of Home Agent health and load information associated with the first one of the plurality of Home Agents to one or more of the plurality of Home Agents (see fig. 14 and paragraph 0163).

As per claims 18-20, Johansson discloses the method as recited in claim 15, further comprising: receiving an advertisement from one of the plurality of Home Agents, the advertisement advertising the virtual network associated with the virtual Home Agent address (see fig. 3a and paragraphs 0018 and 0035)

As per claims 26-27, Johansson discloses the method as recited in claim 1, further comprising: sending one or more bindings to one or more backup Home Agents, the

one or more bindings being associated with one or more of the plurality of Home Agents (see fig. 13a and paragraph 0142).

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Warriar and Johansson as applied to claim 1 above, and further in view of Haverinen U.S.

Patent Application Publication No. 2001/0021175[hereinafter Haverinen]

As per claim 28, Warriar and Johansson disclose substantial features of the claimed invention as discussed above with respect to claim 1,

Warriar and Johansson are silent regarding:

when the registration request is received, searching for a binding for the Mobile

Node(see paragraph 0027-0028);

when a binding for the Mobile Node exists, identifying the second one of the plurality of Home Agents in the binding prior to sending the registration request to the second one of the plurality of Home Agents; and

when a binding for the Mobile Node does not exist, selecting the second one of the plurality of Home Agents prior to sending the registration request to the second one of the plurality of Home Agents;

Haverinen discloses in analogous art a load balancing system for supporting Mobile IP when the registration request is received, searching for a binding for the Mobile Node(see paragraph 0027-0028);

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when a binding for the Mobile Node exists, identifying the second one of the plurality of Home Agents in the binding prior to sending the registration request to the second one of the plurality of Home Agents(see paragraph 0027-0028); and

when a binding for the Mobile Node does not exist, selecting the second one of the plurality of Home Agents prior to sending the registration request to the second one of the plurality of Home Agents (see paragraph 0027-0028). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention presented with teaching of Warriar and Johansson to utilize the load balancing mechanism for the home agents as taught by Haverinen thus the load of the primary home agents can be flexibly balanced, even on the move, even though the mobile nodes were already registered[see paragraph 0009].

8. As per claims 44-46, the claims include features analogous with features in claims 1discussed above thus claims 44-46 are rejected same rational as claim 1.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salad E. Abdullahi whose telephone number is 571-272-4009. The examiner can normally be reached on 8:30 - 5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can



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be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abdullahi Salad

2/12/2006

  
**ABDULLAHI SALAD**  
**PRIMARY EXAMINER**